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JOURNEY to the MOON

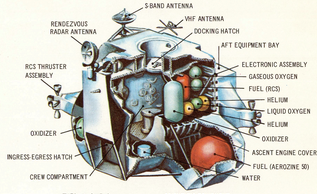
Manned lunar exploration is a sudden reality that has broken upon Twentieth Century man. It is the beginning of exploration in regions far from the earth. It unshackles man from his native planet and represents a new dimension of thought and achievement.

Exploration of the moon is part of the National Aeronautics and Space Administration's manned space flight Apollo Program.

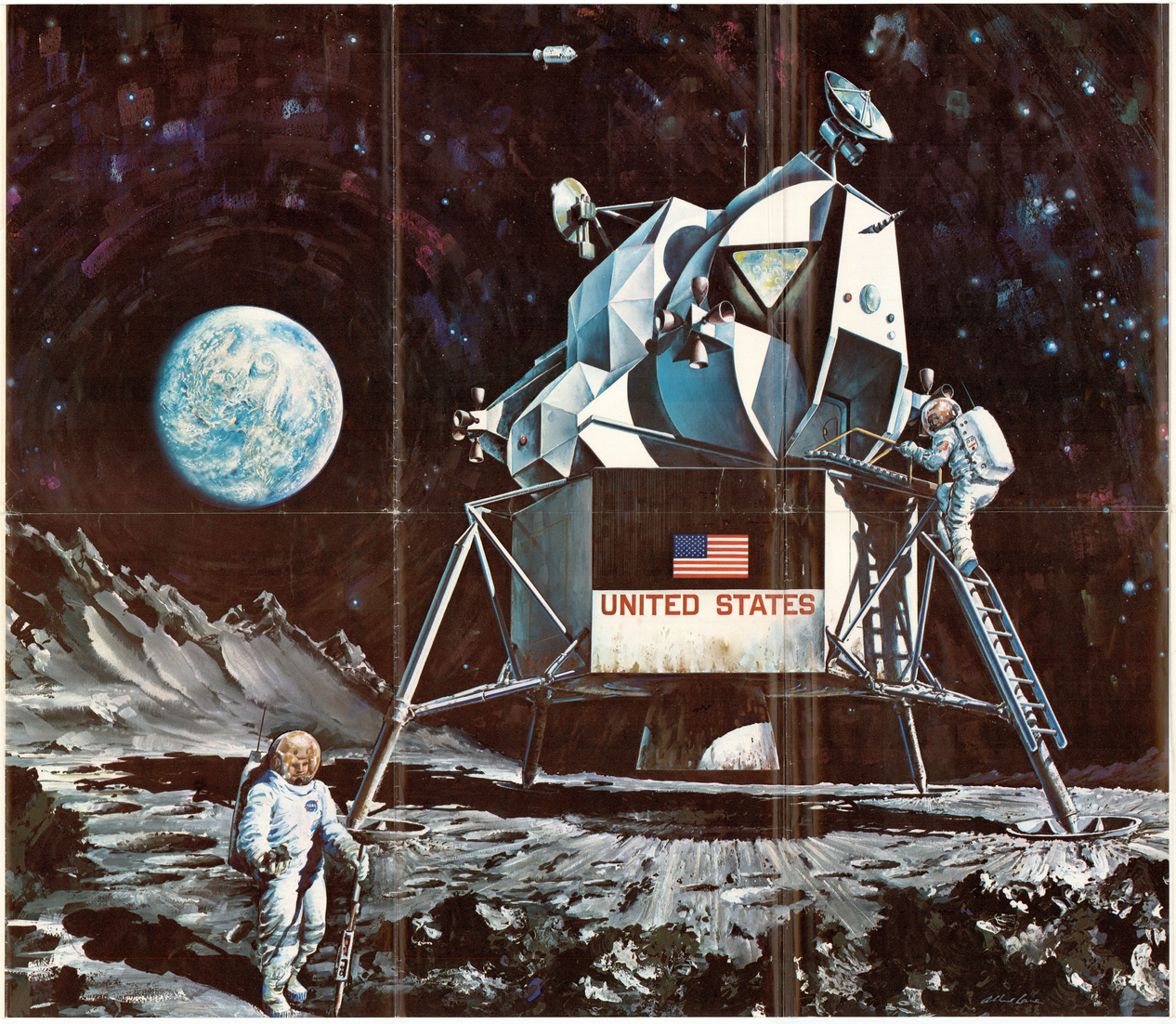
Preparations for the trip have been extraordinarily complex and have involved almost all of the Nation's 50 States in a manned space flight team that is made up of people from government, industry, and the educational community.

As the widespread efforts in the Apollo Program move toward culmination, they become centered in three large NASA installations. The Manned Spacecraft Center at Houston, Texas, selects and trains the astronauts, develops the spacecraft, and conducts the flight missions. The Marshall Space Flight Center at Huntsville, Alabama, is responsible for development of the giant, 280-foot-tall Saturn V launch vehicle. And the Kennedy Space Center in Florida assembles and preflight tests the rockets and spacecraft in the world's largest building, moves the upright space vehicle to the launch pad, and conducts the launches.

The lunar journey is described in this NASA FACTS, in simplified terms, from launch to recovery.

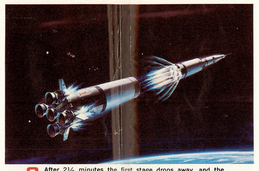


LUNAR MODULE

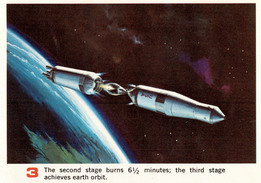


"GIANT STEPS TO THE MOON"

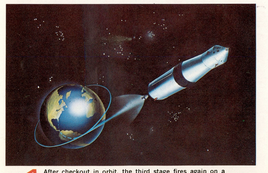
1 Liftoff: Three Apollo astronauts leave Kennedy Space Center for the moon.



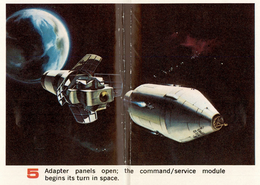
2 After 2½ minutes the first stage drops away, and the second stage ignites.



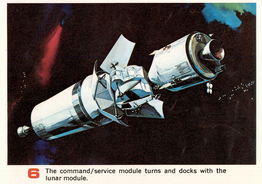
3 The second stage burns 6½ minutes; the third stage achieves earth orbit.



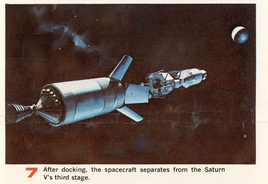
4 After checkout in orbit, the third stage fires again on a lunar trajectory.



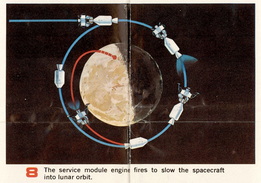
5 Adapter panels open; the command/service module begins its turn in space.



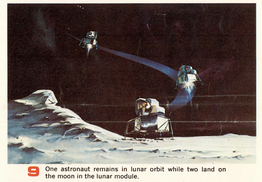
6 The command/service module turns and docks with the lunar module.



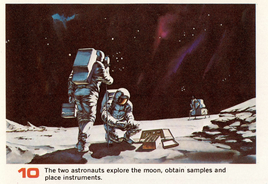
7 After docking, the spacecraft separates from the Saturn V's third stage.



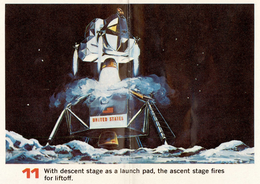
8 The service module engine fires to slow the spacecraft into lunar orbit.



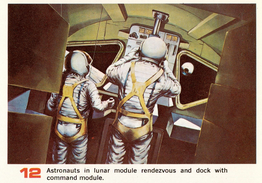
9 One astronaut remains in lunar orbit while two land on the moon in the lunar module.



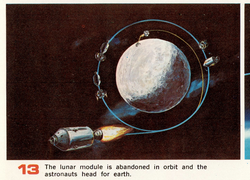
10 The two astronauts explore the moon, obtain samples and place instruments.



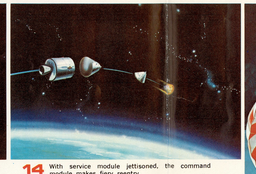
11 With descent stage as a launch pad, the ascent stage fires for liftoff.



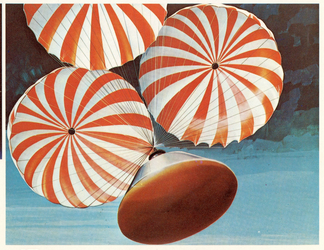
12 Astronauts in lunar module rendezvous and dock with command module.



13 The lunar module is abandoned in orbit and the astronauts head for earth.



14 With service module jettisoned, the command module makes fiery reentry.



15 Slowed by the atmosphere, the spacecraft parachutes into the Pacific Ocean.

■ All manned Apollo missions, including the lunar flight, are scheduled on an open-ended basis. This means that the mission consists of a series of decision points at which earth return plans can be initiated. The decision points are separated by the normal flight mission activities. Between the decision points, the astronauts and ground controllers continuously review performance of vital rocket and spacecraft systems.

For example, a decision not to continue might be made while the space vehicle is still in earth parking orbit or at some point during the trip out to the moon. Alternate mission plans or immediate mission termination could then be used. At nearly every stage of the flight this termination decision can be made and the earth return flight plan initiated.

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